11-26-2008

'Good News' for Green Industry

University of Dayton, Ohio (url: http://www.udayton.edu/index.php)

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11.26.2008 | Hot Topics, Energy and Environment

Companies in Ohio are applauding the state's first master's program in clean and renewable energy approved Tuesday, Nov. 25, by Ohio Board of Regents Chancellor Eric D. Fingerhut.

"As a leading Ohio solar company, we consider this program to be good news for us, the U.S. solar industry and the state," said Carol Campbell, First Solar vice president of human resources. "We applaud this effort to develop talent that will support the state's leading role in the fast-growing renewable energy industry." Tempe, Ariz.-based First Solar operates customer support and manufacturing operations in Perrysburg, Ohio, near Toledo.

The University of Dayton, Wright State University, Central State University and the Air Force Institute of Technology will join forces to start the two-year program. Faculty from all four institutions will teach courses. Students will earn a degree from either UD or Wright State, depending on where students enroll.

"This is another example of the world-class collaborations in the Miami Valley that will move Ohio's economy forward," Fingerhut said. "Students will graduate from this master's program with the leadership, management, research and technical skills needed to help grow one of the most critical industries of the 21st century — clean and renewable energy and advanced energy systems. The program has the potential to be a regional academic center of excellence where new ideas are incubated, developed, tested and refined."

Besides developing more engineers, the partners say the program is designed to help address the need for stable, clean and economical energy sources. The program also is in line with the state of Ohio's interest in research within Ohio's Third Frontier Project and the University Clean Energy Alliance of Ohio.

The four institutions hope to provide a workforce for more than 45 existing Ohio companies with a stake in renewable energy and energy efficiency, as well as graduates who can start new businesses to create new Ohio jobs.

"It is important for Ohio companies working in fuel cells and other energy sources to have access to a qualified workforce," said Scott Swartz, chief technology officer of NexTech Materials. "Having these students trained in Ohio makes it easier for these companies to recruit the best possible workforce." NexTech is based north of Columbus in Lewis Center, Ohio.

The program will operate within the University of Dayton's mechanical and aerospace engineering department and Wright State University's mechanical and materials engineering department. Classes will focus on development of energy-reducing design techniques, renewable energy and manufacturing systems, and better forms of solar energy, fuel cells and biofuels.

"As we move into the commercialization phase of fuel cell technology, the 100 members of the Ohio Fuel Cell Corridor have identified the need for more capable engineers in the clean and renewable energy field. This program will go a long way to creating these skills here in Ohio," said Lionel Batty, Chair of the Ohio Fuel Cell Coalition.

Kevin Hallinan, chair of UD's mechanical and aerospace engineering department, will direct the new program and teach classes. Other UD instructors are Kelly Kissock, professor of mechanical and aerospace engineering; Dilip Ballal, director of the von Ohain Fuels and Combustion Center at UD; and Sukh Sidhu, a senior research engineer in the University of Dayton Research Institute's Environmental Engineering Group.

"Energy efficiency improvements are the easiest and cheapest way to offset growing energy costs and demand," Hallinan said. "As energy costs rise, the U.S., which uses two times more energy per person than Japan, Germany and France, will be put at an extreme competitive disadvantage. The worldwide economy cannot grow if we don't access new energy sources."

Wright State's program, taught by Jim Menart, Hong Huang, Amir Farajian, Dan Young, Marian Kazimierchuk and Bor Jang, dean of the university's College of Engineering and Computer Science, also will include related research components.

"It is very important that we start educating our next generation of engineers in how to power our society, other than through the use of fossil fuels," said Menart, who also will direct the Renewable and Clean Energy Program at Wright State. "The United

States has to develop a renewable and clean energy structure to grow its economy. This program is important to the future of Ohio's economy as it will produce tomorrow's trained workforce."

Potential students include professionals looking to upgrade their skills, undergraduate engineering majors, current engineering graduate students and international students. Both UD and Wright State may admit students into the program as early as January. "It's very likely that we would have our first graduates in spring 2010," said Malcolm Daniels, interim dean of the UD School of Engineering.

UD performs about $18 million of energy-related research within the School of Engineering, the College of Arts and Sciences and the University of Dayton Research Institute.

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